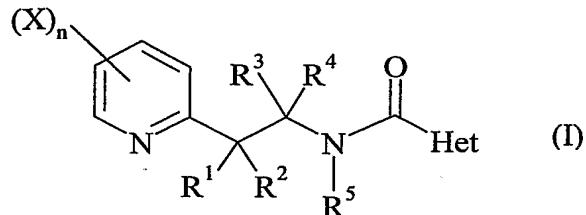


CLAIMS

1. A compound of general formula (I) :



in which :

- n is 1, 2, 3 or 4;

- X is the same or different and is a halogen atom, a nitro group, a cyano group, a hydroxy group, an amino group, a sulfanyl group, a pentafluoro- λ^6 -sulfanyl group, a formyl group, a formyloxy group, a formylamino group, a carboxy group, a carbamoyl group, a N-hydroxycarbamoyl group, a carbamate group, a (hydroxyimino)-C₁-C₆-alkyl group, a C₁-C₈-alkyl, a C₂-C₈-alkenyl, a C₂-C₈-alkynyl, a C₁-C₈-alkylamino, a di-C₁-C₈-alkylamino, a C₁-C₈-alkoxy, a C₁-C₈-halogenoalkoxy having 1 to 5 halogen atoms, a C₁-C₈-alkylsulfanyl, a C₁-C₈-halogenoalkylsulfanyl having 1 to 5 halogen atoms, a C₂-C₈-alkenyloxy, a C₂-C₈-halogenoalkenyloxy having 1 to 5 halogen atoms, a C₃-C₈-alkynyloxy, a C₃-C₈-halogenoalkynyloxy having 1 to 5 halogen atoms, a C₃-C₈-cycloalkyl, a C₃-C₈-halogenocycloalkyl having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbonyl, a C₁-C₈-halogenoalkylcarbonyl having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbamoyl, a di-C₁-C₈-alkylcarbamoyl, a N-C₁-C₈-alkyloxycarbamoyl, a C₁-C₈-alkoxycarbamoyl, a N-C₁-C₈-alkyl-C₁-C₈-alkoxycarbamoyl, a C₁-C₈-alkoxycarbonyl, a C₁-C₈-halogenoalkoxycarbonyl having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbonyloxy, a C₁-C₈-halogenoalkylcarbonyloxy having 1 to 5 halogen atoms, a C₁-C₈-alkylcarbonylamino, a C₁-C₈-halogenoalkylcarbonylamino having 1 to 5 halogen atoms, a C₁-C₈-alkylaminocarbonyloxy, a di-C₁-C₈-alkylaminocarbonyloxy, a C₁-C₈-alkyloxycarbonyloxy, a C₁-C₈-alkylsulphenyl, a C₁-C₈-halogenoalkylsulphenyl having 1 to 5 halogen atoms, a C₁-C₈-alkylsulphanyl, a C₁-C₈-halogenoalkylsulphanyl having 1 to 5 halogen atoms, a C₁-C₈-alkylsulphonyl, a C₁-C₈-halogenoalkylsulphonyl having 1 to 5 halogen atoms, a C₁-C₆-alkoxyimino, a (C₁-C₆-alkoxyimino)-C₁-C₆-alkyl, a (C₁-C₆-alkenyloxyimino)-C₁-C₆-alkyl, a (C₁-C₆-alkynyloxyimino)-C₁-C₆-alkyl, a (benzyloxyimino)-C₁-C₆-alkyl, a benzyloxy, a benzylsulfanyl, a benzylamino, a phenoxy, a phenylsulfanyl or a phenylamino;

- R^1 , R^2 , R^3 and R^4 are the same or different and are a hydrogen atom, a halogen atom, a cyano group, a hydroxy group, an amino group, a sulfanyl group, a formyl group, a formyloxy group, a formylamino group, a carboxy group, a carbamoyl group, a N-hydroxycarbamoyl group, a carbamate group, a (hydroxyimino)- C_1 - C_6 -alkyl group, a C_1 - C_8 -alkyl, a C_1 - C_8 -halogenoalkyl having 1 to 5 halogen atoms, a C_2 - C_8 -alkenyl, a C_2 - C_8 -alkynyl, a C_1 - C_8 -alkylamino, a di- C_1 - C_8 -alkylamino, a C_1 - C_8 -alkoxy, a C_1 - C_8 -halogenoalkoxy having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulfanyl, a C_1 - C_8 -halogenoalkylsulfanyl having 1 to 5 halogen atoms, a C_2 - C_8 -alkenyloxy, a C_2 - C_8 -halogenoalkenyloxy having 1 to 5 halogen atoms, a C_3 - C_8 -alkynyloxy, a C_3 - C_8 -halogenoalkynyloxy having 1 to 5 halogen atoms, a C_3 - C_8 -cycloalkyl, a C_3 - C_8 -halogenocycloalkyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylcarbonyl, a C_1 - C_8 -halogenoalkylcarbonyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylcarbamoyl, a di- C_1 - C_8 -alkylcarbamoyl, a N- C_1 - C_8 -alkyloxycarbamoyl, a C_1 - C_8 -alkoxycarbamoyl, a N- C_1 - C_8 -alkyl- C_1 - C_8 -alkoxycarbamoyl, a C_1 - C_8 -alkoxycarbonyl, a C_1 - C_8 -halogenoalkoxycarbonyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylcarbonyloxy, a C_1 - C_8 -halogenoalkylcarbonyloxy having 1 to 5 halogen atoms, a C_1 - C_8 -alkylcarbonylamino, a C_1 - C_8 -halogenoalkylcarbonylamino having 1 to 5 halogen atoms, a C_1 - C_8 -alkylaminocarbonyloxy, a di- C_1 - C_8 -alkylaminocarbonyloxy, a C_1 - C_8 -alkyloxycarbonyloxy, a C_1 - C_8 -alkylsulphenyl, a C_1 - C_8 -halogenoalkylsulphenyl having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulphinyloxy, a C_1 - C_8 -halogenoalkylsulphinyloxy having 1 to 5 halogen atoms, a C_1 - C_8 -alkylsulphonyl, a C_1 - C_8 -halogenoalkylsulphonyl having 1 to 5 halogen atoms, a benzyloxy, a benzylsulfanyl, a benzylamino, a phenoxy, a phenylsulfanyl or a phenylamino, a phenyl group, a phenyl sulphanyl group;

or R^1 and R^2 may form together a cyclopropyl, a cyclobutyl, a cyclopentyl or a cyclohexyl;

with the proviso that when three of the four substituents R^1 , R^2 , R^3 and R^4 are a hydrogen atom, then the fourth substituent is not a hydrogen atom;

- R^5 is a hydrogen atom, a cyano group, a formyl group, a hydroxy group, a C_1 - C_6 -alkyl, a C_1 - C_6 -halogenoalkyl having 1 to 5 halogen atoms, a C_1 - C_6 -alkoxy, a C_1 - C_6 -halogenoalkoxy having 1 to 5 halogen atoms, a C_3 - C_6 -cycloalkyl, a C_3 - C_6 -halogenocycloalkyl having 1 to 5 halogen atoms, a C_2 - C_6 -alkenyl, a C_2 - C_6 -alkynyl, a C_1 - C_6 -alkoxy- C_1 - C_6 -alkyl, a C_1 - C_6 -cyanoalkyl, a C_1 - C_6 -aminoalkyl, a C_1 - C_6 -alkylamino- C_1 - C_6 -alkyl, a di- C_1 - C_6 -alkylamino- C_1 - C_6 -alkyl, a C_1 - C_6 -alkylcarbonyl, a C_1 - C_6 -halogenalkylcarbonyl having 1 to 5 halogen atoms, a C_1 - C_6 -alkyloxycarbonyl, a C_1 - C_6 -benzyloxycarbonyl, a C_1 - C_6 -alkoxy- C_1 - C_6 -alkylcarbonyl, a C_1 - C_6 -alkylsulfonyl or a C_1 - C_6 -halogenoalkylsulfonyl having 1 to 5 halogen atoms;

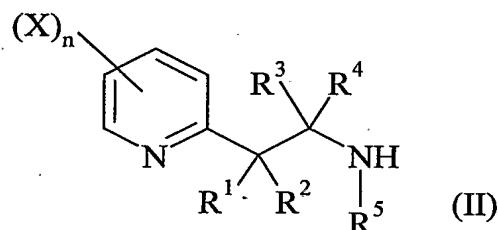
- Het represents 5-, 6- or 7-membered heterocycle with one, two or three heteroatoms which may be the same or different; Het being linked by a carbon atom and being at least substituted in ortho position;
as well as its salts, N-oxydes, metallic and metalloidic complexes.

2. A compound according to claim 1, characterised in that n is 1, 2 or 3.
3. A compound according to claim 1 or 2, characterised in that at least one of the X substituent is a halogen atom, a C₁-C₈-alkyl, a C₁-C₆-alkoxyimino, a (C₁-C₆-alkoxyimino)-C₁-C₆-alkyl, or a C₁-C₆-alkoxy-C₁-C₆-alkylcarbonyl.
4. A compound according to any of the claims 1 to 3, characterised in that the 2-pyridyl is substituted in 3-, 5- and/or in 6-position.
5. A compound according to any of the claims 1 to 4, characterised in that R¹ and R² are chosen, independently of each other, as being a hydrogen atom, a halogen atom, a cyano group, a hydroxy group, a C₁-C₆-alkyl, a C₁-C₆-halogenoalkyl having 1 to 5 halogen atoms, a C₂-C₆-alkenyl, a C₁-C₆-alkoxy, a C₁-C₆-alkylsulfanyl, a C₁-C₆-alkylsulfenyl, a C₁-C₆-alkylsulfinyl, a C₁-C₆-alkoxycarbonyl, a C₁-C₆-alkylcarbonylamino, a C₁-C₆-alkoxycarbonyloxy, a C₁-C₆-alkoxycarbonylamino or a phenyl group.
6. A compound according to claim 5, characterised in that R¹ and R² are chosen, independently of each other, as being a halogen atom, a C₁-C₆-alkyl, a C₁-C₆-halogenoalkyl having 1 to 5 halogen atoms or a C₁-C₆-alkylcarbonylamino.
7. A compound according to any of the claims 1 to 6, characterised in that R³ and R⁴ are chosen, independently of each other, as being a hydrogen atom, a halogen atom, a cyano group, a C₁-C₆-alkyl, a C₁-C₆-halogenoalkyl having 1 to 5 halogen atoms, a C₁-C₆-alkylcarbonylamino or a phenyl group.
8. A compound according to claim 7, characterised in that R³ and R⁴ are chosen, independently of each other, as being a halogen atom, a C₁-C₆-alkyl, a C₁-C₆-halogenoalkyl having 1 to 5 halogen atoms or a phenyl group.
9. A compound according to any of the claims 1 to 8, characterised in that R⁵ is a hydrogen atom or a C₃-C₇-cycloalkyl.

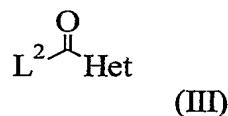
10. A compound according to any of the claims 1 to 9, characterised in that Het is a five membered ring heterocycle.

11. A compound according to any of the claims 1 to 9, characterised in that Het is a six membered ring heterocycle.

12. A process for the preparation of a compound of general formula (I) as defined in any of the claims 1 to 11, which comprises reacting a 2-pyridine derivative of general formula (II) or one of its salt :



in which X, n, R¹, R², R³, R⁴ and R⁵ are as in any of the preceding claims; with a carboxylic acid derivative of the general formula (III)

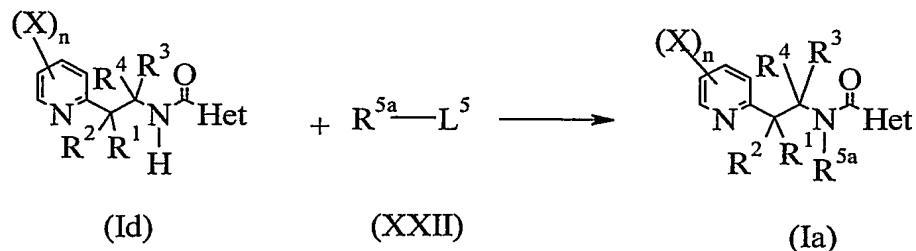


in which :

- Het is as defined in any of the preceding claims ; and
- L² is a leaving group chosen as being a halogen atom, a hydroxyl group, -OR⁶, -OCOR⁶, R⁶ being a C₁-C₆ alkyl, a C₁-C₆ haloalkyl, a benzyl, 4-methoxybenzyl, pentafluorophenyl or a group of formula $\begin{array}{c} \text{O} \\ \parallel \\ \text{O-Het} \end{array}$;

in the presence of a catalyst and, if L² is a hydroxyl group, in the presence of a condensing agent.

13. A process according to claim 12, characterised in that R⁵ is a hydrogen atom and that the process is completed by a further step according to the following reaction scheme :



in which : - R¹, R², R³, R⁴, X, n and Het are as defined in any of the claims 1 to 15;

- R^{5a} is a cyano group, a formyl group, a hydroxy group, a C₁-C₆-alkyl, a C₁-C₆-halogenoalkyl having 1 to 5 halogen atoms, a C₁-C₆-alkoxy, a C₁-C₆-halogenoalkoxy having 1 to 5 halogen atoms, a C₃-C₆-cycloalkyl, a C₃-C₆-halogenocycloalkyl having 1 to 5 halogen atoms, a C₂-C₆-alkenyl, a C₂-C₆-alkynyl, a C₁-C₆-alkoxy-C₁-C₆-alkyl, a C₁-C₆-cyanoalkyl, a C₁-C₆-aminoalkyl, a C₁-C₆-alkylamino-C₁-C₆-alkyl, a di-C₁-C₆-alkylamino-C₁-C₆-alkyl, a C₁-C₆-alkylcarbonyl, a C₁-C₆-halogenalkylcarbonyl having 1 to 5 halogen atoms, a C₁-C₆-alkyloxycarbonyl, a C₁-C₆-benzyloxycarbonyl, a C₁-C₆-alkoxy-C₁-C₆-alkylcarbonyl, a C₁-C₆-alkylsulfonyl or a C₁-C₆-halogenoalkylsulfonyl having 1 to 5 halogen atoms; and

- L⁵ is a leaving group chosen as being a halogen atom, a 4-methyl phenylsulfonyloxy or a methylsulfonyloxy;

comprising the reaction of a compound of general formula (Id) with a compound of general formula (XXII) to provide a compound of general formula (Ia).

14. A fungicidal composition comprising an effective amount of a compound according to any of the claims 1 to 11 and an agriculturally acceptable support.

15. A method for preventively or curatively combating the phytopathogenic fungi of crops, characterised in that an effective and non-phytotoxic amount of a composition according to claim 14 is applied to the plant seeds or to the plant leaves and/or to the fruits of the plants or to the soil in which the plants are growing or in which it is desired to grow them.